PATENT
Docket No: 151P08970US02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

John E. Kast

Serial No.: 10/772,944 Group Art Unit: 3766

Filed: February 5, 2004 Examiner: Frances P. Oropeza

For: IMPLANTABLE MEDICAL DEVICE WITH EXTERNAL RECHARGING COIL

BRIEF ON APPEAL

Board of Patent Appeals and Interferences
Commissioner for Patents
Washington, DC 20231

This is an appeal from the Office Action mailed on June 1, 2009 finally rejecting claims 1 – 21 of the above-identified application. A Notice of Appeal was timely filed electronically on July 20, 2009. Accordingly, the due date for the Brief on Appeal, having been extended, is **October 20, 2009**.

The fee required under 37 CFR §1.17(c) for the appeal should be charged to Deposit Account No. 50-0549.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues involved in this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

TABLE OF CONTENTS

REAL PARTY IN INTEREST

The real party in interest is Medtronic, Inc., 710 Medtronic Parkway, Minneapolis, Minnesota 55432-5604, as evidenced by the Assignment recorded on April 17, 2001 at Reel 11738, Frame 0560.

RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's legal representative and the assignee are not aware of any appeals or interference proceedings before the U.S. Patent and Trademark Office that will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 1 – 21 are pending in this application.

Claim 22 has been canceled.

Claims 1 – 17 and 19 – 22 stand rejected under 35 USC § 103(a) as being anticipated by U.S. Patent No. 6,154,677, Leysieffer ("Leysieffer '677"), in an Office Action made final mailed June 1, 2009.

Claim 18 stands rejected under 35 USC § 103(a) as being anticipated by U.S. Patent No. 6,154,677, Leysieffer ("Leysieffer '677") in view of U.S. Patent No. 5,279,292, Baumann et al ("Baumann et al '292"), in an Office Action made final mailed June 1, 2009.

Claims 1 – 21 are currently being appealed.

STATUS OF AMENDMENTS

All amendments have been entered. No amendments are pending.

SUMMARY OF CLAIMED SUBJECT MATTER

Implantable medical devices which are powered by an internal power source are well known in the art. Devices such as pacemakers, cardioverter/defibrillators and neurological stimulators fundamentally transfer electrical energy from a power source to patient tissue for a therapeutic effect. Even implantable medical devices which don't deliver an electrical therapeutic output, such as sensors and drug pumps, still commonly utilize an internal power source to power the electronics by which the device is controlled and by which the device communicates with external devices via telemetry.

However, as implantable medical devices became more reliable over longer periods of time, the internal power sources began to be inadequate to last the useful life of the device. In particular, devices such as neurological stimulators could last far longer inside a patient than a power source such as a battery could reasonably provide power given the size constraints of implantable medical devices. As a result, rechargeable power sources, such as rechargeable batteries, were incorporated into implantable medical devices, and wireless recharging techniques were developed and incorporated into such devices. In particular, the use of inductive links were developed, in which an external coil placed in proximity of an implanted coil was energized, inducing a current in the implanted coil, which may then be directed to recharge the rechargeable power source.

However, inductive recharging creates certain challenges. In particular, inefficiencies in the coupling between the external coil and the internal coil cause energy to be dissipated in patient tissue rather than delivered to the internal coil. Energy dissipated in patient tissue may result in heating of the tissue, which may cause patient discomfort or injury. Relatively greater energy dissipation results in relatively greater tissue heating, so reducing inefficiencies is important to reduce patient discomfort and prevent patient injury.

One way in which inefficiencies may develop is through misalignment of the coils. In general, the most efficient configuration is when the coils are located relatively close together, parallel and on a common axis. However, because the internal coil is not visible and commonly either contained within the implantable medical device or attached to the housing of the implantable medical device to save on space and reduce the wiring that passes though the body

of the patient, it may be difficult to ascertain the precise location of the internal coil so that the external coil may be positioned properly with respect to the internal coil.

The present invention provides a solution to the need to accurately position the external coil relative to the internal coil. The internal coil is positioned at a location relative to the housing of the implantable medical device that was experimentally determined to be the most conducive to being accurately located by a user, namely centrally located on the face of the housing proximate the skin of the patient.

As established in the Declaration of John Kast under 37 C.F.R. 1.132, filed February 18, 2009, and included in the Evidence Appendix below, centrally locating the recharging coil on a proximal face of the house produces an advantageous result not anticipated, shown nor suggested in the cited art. Since the recharging coil is implanted, it is sometimes difficult to determine the exact location to place or locate the external coil so that the external coil is most closely aligned with the secondary coil. This is because the internal recharging coil can not be directly observed by the patient. An implanted medical device will typically result in a bump or slight protrusion of the skin of the patient at the site of implantation. Such a bump or slight protrusion may be observed by the patient, perhaps visually but more often tactilely, i.e., through palpation of patient tissue. Thus, the patient may be able to reasonably establish the location of the implanted device. Based on testing conducted by Kast, it was determined average position chosen by palpation was approximately in the center of the implantable medical device (Kast Affidavit, paragraph [12]). Thus, the Kast affidavit establishes the importance of the secondary recharging coil being centrally located with respect to the proximal face of the implantable medical device, as doing so could, on average, achieve the greatest concentricity between the external primary recharging coil and the secondary recharging coil, and thus the greatest efficiency of energy transfer.

Thus, the present invention provides a user information regarding the location of the internal coil simply by probing for the location and boundaries of the implantable medical device, knowing that those boundaries define the central location of the internal coil. As a result, the position of the external coil may be determined accurately and reliably, reducing the energy dissipated in patient tissue and reducing patient discomfort and the risk of tissue damage.

There are independent claims under consideration, namely claims 1 and 21.

Claim 1

Claim 1 recites an implantable medical device adapted to be charged with an external recharging coil (page 4, lines 3 – 8). The implantable medical device comprises a housing, electronics, a rechargeable power source and a recharging coil.

The housing has an interior cavity, a proximal face, and an electrical feedthrough (page 5, lines 4 – 5). The electronics are carried in the housing interior cavity and are configured to perform a medical therapy (page 4, lines 21 – 28). The rechargeable power source is carried in the housing interior cavity and is electrically coupled to the electronics (page 4, line 30 – page 5, line 1 and page 5, line 19). The recharging coil is centrally located and substantially carried on the housing proximal face (page 6, lines 4 – 5) and is electrically coupled through the housing electrical feedthrough to the electronics and rechargeable power source (page 5, lines 25 – 27 and page 7, lines 9 – 13).

Thus, claim 1 defines a particular configuration of the internal recharging coil relative to the housing of the implantable medical device. Based on the knowledge of the orientation which may be obtained by palpating the skin of the patient to identify the implantable medical device, a user may obtain accurate indication relating to the location of the implantable medical device so that the external coil may be positioned with respect to the internal coil to create an efficient inductive link. Such positioning allows for minimal energy dissipation in patient tissue.

Thus, the elements of claim 1 provide an advantageous solution to the problem of positioning the external coil in an efficient orientation relative to the internal coil. By centrally locating the secondary coil with respect to the proximal face of the implantable medical device, the greatest average concentricity between the external primary recharging coil and the secondary recharging coil may be achieved. Thus, the greatest efficiency of energy transfer is provided.

No "means plus function" elements are claimed.

Claim 21

Claim 21 recites an implantable medical device adapted to be charged with an external recharging coil (page 4, lines 3 – 8). The implantable medical device comprises a housing,

electronics, a rechargeable power source, means for recharging and means for attaching the means for recharging.

The housing has an interior cavity, a proximal face, and an electrical feedthrough (page 5, lines 4 – 5). The electronics are carried in the housing interior cavity and are configured to perform a medical therapy (page 4, lines 21 – 28). The rechargeable power source is carried in the housing interior cavity and is electrically coupled to the electronics (page 4, line 30 – page 5, line 1 and page 5, line 19). The means for recharging are carried on the housing proximal face and operationally coupled to recharge the rechargeable power source (page 6, lines 4 – 5, page 5, lines 25 – 27 and page 7, lines 9 – 13). The means for attaching attach the means for recharging to a position centrally located and substantially carried on the housing proximal face (page 5, lines 8 – 14 and page 6, lines 4 – 5).

Thus, claim 21 defines a particular configuration of the internal recharging coil relative to the housing of the implantable medical device. Based on the knowledge of the orientation which may be obtained by palpating the skin of the patient to identify the implantable medical device, a user may obtain accurate indication relating to the location of the implantable medical device so that the external coil may be positioned with respect to the internal coil to create an efficient inductive link. Such positioning allow for minimal energy dissipation in patient tissue.

Thus, the elements of claim 21 provide an advantageous solution to the problem of positioning the external coil in an efficient orientation relative to the internal coil. By centrally locating the secondary coil with respect to the proximal face of the implantable medical device, the greatest average concentricity between the external primary recharging coil and the secondary recharging coil may be achieved. Thus, the greatest efficiency of energy transfer is provided.

"Means plus function" elements are claimed. As noted above, the means for recharging are shown at page 6, lines 4 – 5 ("The recharging coil 66 can be centrally located on the housing proximal face 72."), as well as at page 5, lines 25 – 27, page 7, lines 9 – 13, and in Figures 5b, 6b, 7b and 8b, reference numeral 66. As noted above, the means for attaching are shown at page 5, lines 8 – 14, and page 6, lines 4 – 5 and in Figure 4, reference numeral 80.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 – 17 and 19 – 21 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,154,677, Leysieffer ("Leysieffer '677").

Claim 18 stands rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,154,677, Leysieffer ("Leysieffer '677") in view of U.S. Patent No. 5,279,292, Baumann et al ("Baumann et al '292").

ARGUMENTS OF APPELLANTS

Rejections under 35 U.S.C. § 103(a)

Claims 1 – 17 and 19 – 21

Claims 1 – 17 and 19 – 21 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,154,677, Leysieffer ("Leysieffer '677").

Leysieffer '677 discloses various embodiments of an implantable device with a charging current feed arrangement which has a receiving coil. In one embodiment, the implantable device has a main module 56 with a housing 72 containing electronics and a battery (column 3, line 63 – column 4, line 22). The implantable device includes other modules, such as sensor 60 and actuator 70, which are coupled to the main module 56 via coupling element 64 (column 3, line 4 – column 4, line 19). A receiving coil 106 is a part of a unit 105 which is covered by a polymer jacketing 104 and "connected mechanically tightly" to the main module housing 72 "on the side facing away from coupling element 64" (column 4, lines 49 – 52). But in this and other embodiments illustrated in Figures 2 – 7 and 9 the receiving coil 106 is not centrally located on a housing proximal face of implantable medical device. Rather, in each case, receiving coil 106 is "attached laterally to the main housing" (column 6, line 38), as in Figures 1 – 4, and 7, is located on a side face as in Figures 5 and 6, or is located in a module entirely separate from the housing of the implantable medical device as in Figure 9.

In an embodiment illustrated in a side-view of Figure 8, the receiving coil 106 is "seated on a broad side of the main module housing 132" (column 6, line 40). While the side profile suggests that the receiving coil 106 is centrally located in one dimension, i.e., laterally from the perspective of the drawing, Leysieffer '677 does not show, disclose or suggest that the receiving coil is centrally located in the other dimension, i.e., depth from the perspective of the drawing. As such, it would be speculation to assert that the disclosure of Figure 8 is that the receiving coil is centrally located. Leysieffer '677 merely discloses that the receiving coil is seated on a broad side of the housing. Moreover, Leysieffer '677 discloses that when the receiving coil is seated on a broad side of the housing that other components such as battery 90 are not located in the housing 132. Thus, Leysieffer '677 does not show, disclose or suggest that the receiving coil is located on a housing proximal face while the battery is located in the housing.

The disclosure of Leysieffer '677 is fundamentally different from the subject matter of claims 1 and 21. Claim 1 clearly and explicitly requires "a rechargeable power source carried in the housing interior cavity" (claim 1, lines 7 – 8) and a "recharging coil centrally located and substantially carried on the housing proximal face" of the housing of the implantable medical device (claim 1, lines 9 – 10). Claim 21 recites "a rechargeable power source carried in the housing interior cavity" (claim 21, lines 7 – 8) and a "means for recharging carried on the housing proximal face" and "means for attaching the means for recharging to a position centrally located and substantially carried on the housing proximal face" (claim 21, lines 9 – 12). Leysieffer '677 does not show, disclose or suggest a recharging coil centrally located and substantially carried on a housing proximal face, disclosing only that it may be carried on a broad side of the housing. Moreover, Leysieffer '677 plainly discloses that when the receiving coil is located on the broad side of the housing, the battery is not then located in the housing. The Examiner essentially admits as much saying "absent any teaching or unexpected results, merely changing the location of the coil on the exterior face of the housing to a central location would be an obvious design choice." Office Action mailed Jun 1, 2009, page 2, line 21 – page 3, line 1. The Examiner then goes on to cite the specification of the instant application, which recites that "the recharging coil can either be carried on the proximal face ... or detached ... and located remotely." Id. at page 3, lines 2 – 3. "When determining whether a claim is obvious, an examiner must make 'a searching comparison of the claimed invention – including all its limitations – with the teaching of the prior art." In re Ochiai, 71 F.3d 1565, 1572 (Fed. Cir. 1995). "Thus, 'obviousness requires a suggestion of all limitations in a claim." CFMT, Inc. v. Yieldup Intern Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing In re Royka, 490 F.2d 981, 985 (C.C.P.A. 1974). Here the Examiner has failed to show any prior art which contains all of the limitations of an essential claim element. Because Leysieffer '677 does not show that the coil is centrally located, Leysieffer '677 does not show, disclose or suggest at least one essential element of claims 1 and 21, and as such claims 1 and 21 are not rejectable over Leysieffer '677 under 35 USC § 103(a). For this reason alone, the rejections must fail.

It is noted that the citation the Examiner made to the specification is to the Summary of the Invention section, and that the sentence cited merely recites that the recharging coil can be located away from the housing proximal face. However, attention is directed to the immediately preceding sentence, which recites that "In one embodiment, the recharging coil is carried on the

proximal face of the medical device housing", establishing the embodiment in which the recharging coil is carried on the housing proximal face. The existence of an acknowledgement that the recharging coil can be positioned elsewhere does not detract from the reality that in the primary embodiments illustrated throughout the figures (e.g., Figures 5 – 8) that the recharging coil is, in fact, carried on the housing proximal face. "In making an obviousness rejection, the Examiner bears the burden of establishing a prima facie case of obviousness based on the prior art. The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 972 F.2d 1260, 1265 (Fed. Cir. 1992) (citations omitted). Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007), citing In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). To facilitate review, this analysis should be made explicit. KSR, 127 S.Ct. at 1741." Here the Examiner has made no articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

Assuming *arguendo* that it were necessary for Applicant to show secondary considerations to overcome the rejections, the Examiner has dismissed the ability of the Applicant to submit evidence of the criticality and unexpected nature of the subject matter of claims 1 and 21 by way of an affidavit. The Examiner asserts that "if placement of the recharging coil concentrically on a proximal face of the housing was critical or if it proved unexpected results, it is maintained that the Applicant would have made this point in the instant specification." The Applicant is fully entitled to establish facts in the affidavit that were omitted in the specification, and the Examiner is bound to consider the facts as they are provided. *See, e.g., Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983), cited in MPEP 716.01(a). Whether or not the Applicant neglected to include a discussion in the specification of the criticality or unexpectedness of centrally locating the recharging coil on a housing proximal face, the discussion is now in evidence in the affidavit and is entitled to full consideration by the Examiner. And, as established in the affidavit, centrally locating the recharging coil on the housing proximal face provides an advantageous result.

This highly advantageous result is not shown in the prior art. Nothing in Leysieffer '677 discloses such a central location, provides any suggestion of such a central location nor provides any glimpse of the importance of such a central location. Moreover, to the extent that Leysieffer '677 discloses carrying the receiving coil on the broad side of the housing, Leysieffer '677 is apparently compelled to reduce the internal volume in the housing by removing the battery, as shown in Figure 8. Even in such an embodiment, Leysieffer '677 does not show, disclose or suggest that the receiving coil is centrally located on both axes. Thus, it is respectfully submitted that the central location of the recharging coil may be critical to establishing and/or maintaining efficiency of energy transfer and directly leads to the unexpected result of providing a higher efficiency of energy transfer while maintaining the power source within the housing. This result is not shown nor suggested in Leysieffer '677 nor in any of the other cited art.

Moreover, to the extent that Leysieffer '677 addresses the physical location of the receiving coil, Leysieffer '677 actually teaches away from locating a recharging coil centrally on a proximal face of an implanted device by specifically disclosing a housing having a higher section (91) which is designed to hold the battery (90) and a reduced-height section offset to one side of the implanted device designed to hold electronic modules (74 and 76). Receiving coil (106) is attached in the space formed by the housing gradation, which is necessarily offset from the implanted device (see, for example, column 5, lines 28 – 42 and Figures 5 and 6). Leysieffer '677 specifically teaches the benefits of offsetting the coil to one side of the proximal face of the device and, therefore, teaches away from the presently claimed invention. But as can be seen, even if the user were to know that the recharging coil was located on one side of the implanted device (and this point is not conceded because it has not been shown nor discussed in the art), it has not been shown how the user/patient is to know on which side of the device to locate the external coil, as the resulting proximal face disclosed in Leysieffer '677 is, essentially, flat. This would usually, in the absence of blind luck, result in a non-optimal recharge session when the Leysieffer '677 device is used.

Leysieffer '677 does not show, disclose or suggest a secondary coil centrally located on the housing proximal face, and thus does not show, disclose or suggest at least one essential element of claims 1 and 21. Moreover, even though it is unnecessary to establish secondary considerations to overcome the rejection of claims 1 and 21 under 35 USC § 103(a) due to the

lack of a showing of an essential element, centrally locating the secondary coil produces unexpected, advantageous results, as shown by the research and testing of Kast. It is noted that in view of the advantageous result realized by centrally locating the secondary recharging coil, if it were simply a matter of design choice, as asserted in the Office Action, then certainly the cited art would have done so. The fact that the cited art did not appreciate these advantageous results attests to the fact that centrally locating the secondary recharge coil on the housing proximal face is a significant and unanticipated advance in the art.

Summary

In particular, with respect to independent claim 1, Leysieffer '677 does not show, disclose or suggest a recharging coil centrally located and substantially carried on a housing proximal face. As such, Leysieffer '677 does not show, disclose or suggest at least one essential element of claim 1. Thus, claim 1 is not unpatentable under 35 USC § 103(a) over U.S. Patent No. 6,154,677, Leysieffer, and the rejection of claim 1 should be reversed.

Claims 2 – 17, 19 and 20 depend from independent claim 1. As such, claims 2 – 17, 19 and 20 incorporate all of the subject matter of claim 1, as well as additional patentable subject matter. The rejections of claims 2 – 17, 19 and 20 under 35 USC § 103(a) over U.S. Patent No. 6,154,677, Leysieffer, should be reversed for the same reasons provided with respect to claim 1.

In particular, with respect to independent claim 21, Leysieffer '677 does not show, disclose or suggest means for recharging carried on the housing proximal face, and means for attaching the means for recharging to a position centrally located and substantially carried on the housing proximal face. As such, Leysieffer '677 does not show, disclose or suggest at least one essential element of claim 21. Thus, claim 21 is not unpatentable under 35 USC § 103(a) over U.S. Patent No. 6,154,677, Leysieffer, and the rejection of claim 21 should be reversed.

Claim 18

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,154,677 ("Leysieffer '677") in view of U.S. Patent No. 5,279,292 ("Baumann et al '292").

The above discussion of claim 1, from which claim 18 depends, and Leysieffer '677 is incorporated in its entirety.

Baumann et al '292 discloses a charging system for implantable hearing aids and tinnitus maskers. The system comprises an implantable medical device with a recharging coil, a rechargeable power source, and electronics, all contained within the housing of the implantable medical device (column 3, lines 4 – 33). However, Baumann et al '292 does not show, disclose or suggest a recharging coil centrally located and substantially carried on a proximal face of the housing. As noted above, Leysieffer '677 does not disclose the feature of centrally locating the recharging coil with respect to the proximal face of the implantable medical device. Baumann et al '292 has been cited solely for the teaching of a telemetry coil carried in the interior cavity of the housing of the implantable medical device. Baumann et al '292 does not show, disclose nor suggest a recharge coil "centrally located and substantially carried on the housing proximal face" of the implantable medical device. All of the arguments presented above with respect to Leysieffer '677 apply equally well to Baumann et al '292.

In particular, with respect to independent claim 1, neither Leysieffer '677 nor Baumann et al '292, either alone or in combination, show, disclose or suggest a recharging coil centrally located and substantially carried on a housing proximal face. As such, Leysieffer '677 does not show, disclose or suggest at least one essential element of claim 1. Thus, claim 1 is not unpatentable under 35 USC § 103(a) over U.S. Patent No. 6,154,677, Leysieffer in view of U.S. Patent No. 5,279,292, Baumann et al.

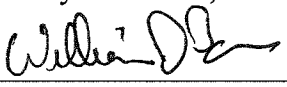
Claim 18 depends from independent claim 1. As such, claim 18 incorporates all of the subject matter of claim 1, as well as additional patentable subject matter. The rejection of claim 18 under 35 USC § 103(a) over U.S. Patent No. 6,154,677, Leysieffer, in view of U.S. Patent No. 5,279,292, Baumann et al should be reversed.

Summary

In view of the arguments presented, the rejections of claims 1 – 17 and 19 – 21 under 35 § 103(a) as being unpatentable over U.S. Patent No. 6,154,677, Leysieffer, and claim 18 under 35 § 103(a) as being unpatentable over U.S. Patent No. 6,154,677, Leysieffer, in view of U.S. Patent No. 5,279,292, Baumann et al, should be reversed.

Registration Number	Telephone Number
28,052	612-331-7405
Date	
October 6, 2009	

Respectfully submitted,

By 

William D. Bauer

APPENDIX

LISTING OF CLAIMS

1. (previously presented) An implantable medical device adapted to be charged with an external recharging coil, comprising:

a housing having an interior cavity, a proximal face, and an electrical feedthrough;

electronics carried in the housing interior cavity, the electronics configured to perform a medical therapy;

a rechargeable power source carried in the housing interior cavity and electrically coupled to the electronics; and,

a recharging coil centrally located and substantially carried on the housing proximal face and electrically coupled through the housing electrical feedthrough to the electronics and rechargeable power source.

2. (original) The implantable medical device as in claim 1 wherein the electrical feedthrough includes a recharge feedthrough located on the housing proximal face.

3. (original) The implantable medical device as in claim 1 wherein the recharging coil is mechanically attached to the housing.

4. (original) The implantable medical device as in claim 1, further comprising at least one housing attachment detail.

5. (original) The implantable medical device as in claim 1, further comprising a coil cover that carries the recharging coil and attaches to the housing.

6. (previously presented) The implantable medical device as in claim 5, further comprising at least one cover alignment detail.

7. (previously presented) The implantable medical device as in claim 5, further comprising at least one cover attachment detail.

8. (previously presented) The implantable medical device as in claim 5, further comprising a biocompatible polymer to create a hermetic seal between the coil cover and the housing.

9. (previously presented) The implantable medical device as in claim 5, further comprising a coil alignment carrier for carrying the coil, the coil alignment carrier positioned between the coil cover and the housing.

10. (previously presented) The implantable medical device as in claim 9 wherein the coil alignment carrier is hermetically sealed to the coil cover to form a coil assembly.

11. (original) The implantable medical device with external recharging coil as in claim 1 wherein the recharging coil is attached to the housing by encapsulation with a polymer.

12. (original) The implantable medical device as in claim 1 wherein the recharging coil is attached to the housing by overmolding with a polymer.

13. (previously presented) The implantable medical device as in claim 12, wherein the overmolding is accomplished in situ.

14. (original) The implantable medical device as in claim 1 wherein the recharging coil is mechanically attached to the housing with a retention sleeve.

15. (previously presented) The implantable medical device as in claim 14 wherein the retention sleeve is hermetically sealed to the housing.

16. (original) The implantable medical device as in claim 1 wherein the rechargeable power source is an electrical storage device.

17. (original) The implantable medical device as in claim 1 wherein the rechargeable power source is a chemical storage device.

18. (original) The implantable medical device as in claim 1 further comprising a telemetry coil carried in the housing interior cavity.

19. (original) The implantable medical device as in claim 1 wherein the recharging coil is configured for multiplexing as a telemetry coil for communications between a programmer and the electronics.

20. (original) The implantable medical device as in claim 1 wherein the medical device is selected from the group consisting of: a neuro stimulator, a pacemaker, a defibrillator, drug delivery pump, and a diagnostic recorder.

21. (previously presented) An implantable medical device adapted to be charged with an external recharging coil, comprising:

a housing having an interior cavity, a proximal face, and an electrical feedthrough;

electronics carried in the housing interior cavity, the electronics configured to perform a medical therapy;

a rechargeable power source carried in the housing interior cavity and electrically coupled to the electronics; and,

means for recharging carried on the housing proximal face and operationally coupled to recharge the rechargeable power source; and

means for attaching the means for recharging to a position centrally located and substantially carried on the housing proximal face.

22. (canceled)

EVIDENCE APPENDIX

1. Kast Affidavit Under 37 C.F.R. § 1.132, dated February 18, 2009.

RELATED PROCEEDINGS APPENDIX

NONE